

Appl. No. 10/632,746
Reply to Office Action of January 10, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An image forming apparatus comprising image carriers for colors of yellow (Y), magenta (M), cyan (C), and black (K), a developing ~~means~~ unit for developing latent images formed on the image carriers using toners of the corresponding colors, a transfer unit ~~means~~ for transferring toner images in the respective colors formed on the image carriers onto the same transfer body, and a fixing unit ~~means~~ for fixing the toner images,

wherein the developing ~~means~~ unit performs development using toner ~~[[in]]~~ on which, ~~out of five materials of silica, titania, barium sulfate, fine polymer particles, and a lubricant,~~ ~~materials not including~~ and either ~~[[the]]~~ fine polymer particles or the barium sulfate are fixed as an external additive.

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2. (Original) An apparatus according to claim 1, wherein the transfer means comprises primary transfer means for the respective colors for sequentially overlaying and transferring the toner images in the respective colors formed on the image carriers onto the same intermediate transfer body serving as a transfer body and secondary transfer means for collectively transferring the overlaid toner images formed on the intermediate body onto a transfer paper serving as another transfer body.

3. (Original) An apparatus according to claim 1, wherein the transfer means comprises transfer means for the respective colors for sequentially overlaying and transferring the toner images in the respective colors formed on the image carriers onto the same transfer paper as the transfer body.

4. (Original) An apparatus according to claim 1, wherein the developing means performs development using a black toner and toners of colors other than black which contain at least two types of external additives different in component type and content.

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5. (Original) An apparatus according to claim 1, wherein a content of the barium sulfate is 0.1 to 1 mass%, a content of the fine polymer particles is 0.1 to 0.5 mass%, and a content of the lubricant is 0 to 0.4 mass%.

6. (Original) An apparatus according to claim 1, wherein the silica includes A-silica and B-silica, two types of silica having different particle sizes.

7. (Original) An apparatus according to claim 6, wherein the A-silica has a particle size of 10 to 30 nm, a content of the A-silica is 0.1 to 0.3 mass%, the B-silica has a particle size of 20 to 100 nm, and a content of the B-silica is 0.5 to 1.5 mass%.

8. (Original) An apparatus according to claim 1, wherein the titania includes a-titania and b-titania, two types of titania having different particle sizes.

9. (Original) An apparatus according to claim 8, wherein the a-titania has a particle size of 10 to 30 nm, a content of

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the a-titania is 0.1 to 0.7 mass%, the b-titania has a particle size of 50 to 200 nm, and a content of the b-titania is 0.1 to 0.5 mass%.

10. (Original) An apparatus according to claim 1, wherein the toners used in the developing means have a number average particle size of 3 to 8 μm .

11. (Original) An apparatus according to claim 1, wherein the developing means performs development using a two-component developing agent mainly composed of toner and carrier, and the toner is manufactured by polymerization.

12. (Original) An apparatus according to claim 1, wherein the intermediate transfer body comprises an endless belt which has a resistivity of 1×10^4 to $1 \times 10^8 \Omega\text{cm}$.

13. (Original) An apparatus according to claim 1, wherein the secondary transfer means includes a secondary transfer roller, the secondary transfer roller has a resistance of 1×10^5

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to $1 \times 10^9 \Omega$, the intermediate transfer body includes an endless belt, and the intermediate transfer body has a resistivity of 1×10^4 to $1 \times 10^9 \Omega\text{cm}$.

14. (Original) An apparatus according to claim 13, wherein a backup member which presses the intermediate transfer body against the secondary transfer roller has a resistance of 1×10^5 to $1 \times 10^9 \Omega$.

15. (Currently Amended) A toner used in an image forming apparatus which causes image carriers for colors of yellow (Y), magenta (M), cyan (C), and black (K) to perform development using toners of the respective colors, ~~transferring~~ transfers toner images in the respective colors from the image carriers onto the same transfer body, and fixes the transferred toner images,

wherein materials ~~[[for]]~~ as an external additive which is fixed on a surface of the toner ~~include~~ includes, ~~out of five materials of silica, titania, barium sulfate, fine polymer particles, and a lubricant, four materials not including either~~ [[the]] fine polymer particles or [[the]] barium sulfate.

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16. (Original) A toner according to claim 15, wherein the transfer of the toner images in the respective colors onto the transfer body comprises primary transfer for the respective colors of sequentially overlaying and transferring the toner images in the respective colors formed on the image carriers onto the same intermediate transfer body serving as a transfer body and secondary transfer of collectively transferring the overlaid toner images formed on the intermediate transfer body onto a transfer paper serving as another transfer body.

17. (Original) A toner according to claim 15, wherein the transfer of the toner images in the respective colors onto the transfer body comprises transfer for the respective colors of sequentially overlaying and transferring the toner images in the respective colors formed on the image carriers onto the same transfer paper as the transfer body.

18. (Original) A toner according to claim 15, wherein the toner comprise a black toner and toners other than the black toner which contain at least two types of external additives different in component type and content.

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19. (Original) A toner according to claim 15, wherein a content of the barium sulfate is 0.1 to 1 mass%, a content of the fine polymer particles is 0.1 to 0.5 mass%, and a content of the lubricant is 0 to 0.4 mass%.

20. (Original) A toner according to claim 15, wherein the silica includes A-silica and B-silica, two types of silica having different particle sizes.

21. (Original) A toner according to claim 20, wherein the A-silica has a particle size of 10 to 30 nm, a content of the A-silica is 0.1 to 0.3 mass%, the B-silica has a particle size of 20 to 100 nm, and a content of the B-silica is 0.5 to 1.5 mass%.

22. (Original) A toner according to claim 15, wherein the titania includes a-titania and b-titania, two types of titania having different particle sizes.

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23. (Original) A toner according to claim 22, wherein the a-titania has a particle size of 10 to 30 nm, a content of the a-titania is 0.1 to 0.7 mass%, the b-titania has a particle size of 50 to 200 nm, and a content of the b-titania is 0.1 to 0.5 mass%.

24. (Original) A toner according to claim 15, characterized by having a number average particle size of 3 to 8 μm .

25. (Original) A toner according to claim 15, wherein the toners of the respective colors are manufactured by polymerization.